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10/829,548	04/22/2004	Igor Cadez	MS149546.02 / MSFTP288USA	7288
27195 7590 01/25/2008 AMIN. TUROCY & CALVIN, LLP 24TH FLOOR, NATIONAL CITY CENTER 1900 EAST NINTH STREET CLEVELAND, OH 44114			EXAMINER ULRICH, NICHOLAS S	
			ART UNIT 2173	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/829,548

Applicant(s)

CADEZ ET AL.

Examiner

Nicholas S. Ulrich

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2173

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28, 29, 31-46, 48, 49 and 52-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28, 29, 31, 33-36, 40-46, 48, 49, and 52-57 is/are rejected.
- 7) ☒ Claim(s) 32 and 37-39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. Claims 28-29, 31-46, 48, 49, and 52-57 are pending.
2. Claims 28, 29, 31-45, 49, 50, 53, 55-57 have been amended.
3. Claims 30, 47, and 51 have been cancelled.
4. The indicated allowability of claims 30, 31, 33-36, 40, 47, 49, and 51-53 are withdrawn in view of further consideration of the prior art of record and the newly discovered reference(s) Mackinlay (US 6499034) , Papierniak et al. (US 6714931 B1) and Kreulen et al. (US 6424971 B1). Rejections based on the newly cited reference(s) follow.

Claim Objections

5. Claims 31, 33, 39, and 40 are objected to because of the following informalities: Claims depend on cancelled claim 30. Claim 30 has been moved into claim 28. For examination purposes, it is assumed that these claims should be depended on claim 28. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 50 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (IBM Systems Journal, Vol. 37, No 1: SpeedTracer: A Web usage mining and analysis tool).

In regard to **claim 50**, Wu discloses a method for displaying web site user activity according to web site behavior, comprising:

cluster web site users by browsing behavior (*Pg 91 paragraph 6 lines 3-4: As previously discusses in rejection of independent claim 28, Wu discusses the use of data mining techniques. Wu further discusses the use data mining techniques to cluster users*);

displaying user web site activity by visualizing information related to web pages accessed by users with similar behavior in fields displayed a window (*Pg 101 figure 10, Pg 102 figure 11, and pg 103 figure 12: Three example reports demonstrated by WU, that show user traversal paths separated into groups that represent the traversal paths of the given users in a group*).

and employing different intensity levels with respective fields to indicate a frequency with which a user visits a type of web page (*Fig 7: pages most frequently visited by users*).

Wu fails to explicitly disclose utilizing an expectation-maximization algorithm. However, as the Applicant admits in the specification on page 8, lines 14-20 that expectation-maximization algorithm is well known in the art. Therefore it would have been to one of ordinary skill in the art at the time the invention was made to use

expectation-maximization algorithm with Wu's invention in order to create clusters using expectation-maximization algorithm.

In regard to **claim 54**, Wu discloses further comprising ordering the windows by a number of users within a cluster (*Pg 101 figure 10, Pg 102 figure 11, and pg 103 figure 12: Three example reports demonstrated by WU, that show user traversal paths separated into groups that represent the traversal paths of the given users in a group. The groups are listed by the number of users contained in the groups*).

7. Claims 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (IBM Systems Journal, Vol. 37, No 1: SpeedTracer: A Web usage mining and analysis tool) in view of Mackinlay (US 6499034).

In regard to **claims 52 and 53**, while Wu teaches visualizing web site activity traffic, they fail to disclose color coding according to type of web page where the type is one of local news, global news, financial news, and entertainment.

However, Mackinlay teaches using colors to label and identify a type of web page represented, where the type includes local news (*Column 3 lines 20-34*). It would have been obvious to one of ordinary skill in the art, having the teachings of Wu and Mackinlay before him at the time the invention was made, to modify the visualization taught by Wu to include the color coding of Mackinlay. It would have been

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advantageous for one to utilize such a combination in order to visualize and distinguish different types of web pages, as suggested by Mackinlay.

8. Claims 28, 29, 33, 36, 41, 42, 43, 44, 55, 56, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (IBM Systems Journal, Vol. 37, No 1: SpeedTracer: A Web usage mining and analysis tool) in view of Papierniak et al. (US 6714931 B1).

In regard to **claim 28**, Wu discloses a system that visualizes web site activity traffic, comprising:

a monitoring component that obtains information related to browsing activity of users visiting a web site (*Pg 89 paragraph 1 lines 11-12, Pg 93 paragraph 1 lines 12-15*);

a component that analyzes the information and parses the users into one or more groups based on the analyzed information (*Pg 89 paragraph 1 lines 15-18 and line 24, Pg 95 paragraph 3 lines 3-5, Pg 102 paragraph 2 lines 1-9, and Figure 10: Throughout the article Wu discusses the use of data mining to find browsing patterns. Wu goes on to discuss grouping similar browsing patterns and provides an example report illustrating the findings in fig 10*);

and a visualization component that graphically presents user browsing information in one or more windows within a display screen, the one or more windows correspond to the one or more user groups, respectively, and the browsing information

displayed within a window corresponds to the group associated with the window (*Pg 101 figure 10, Pg 102 figure 11, and pg 103 figure 12: Three example reports demonstrated by WU, that show user traversal paths separated into groups that represent the traversal paths of the given users in a group*).

While Wu teaches a system that visualizes web site activity traffic, they fail to show the browsing information within the window being delineated by user into one or more rows such that each row corresponds to an individual user as recited in the claims. Papierniak teaches visualizing web site activity traffic similar to that of Wu. In addition, Papierniak further teaches the browsing information within the window being delineated by user into one or more rows such that each row corresponds to an individual user (*Figure 9 and Column 11 lines 22-40*). It would have been obvious to one of ordinary skill in the art, having the teachings of Wu and Papierniak before him at the time the invention was made, to modify the visualizing web site activity traffic taught by Wu to include the user rows of Papierniak. It would have been advantageous for one to utilize such a combination as a representation of data in a format meaningful to business management would have been obtained, as suggested by Papierniak (*Column 11 lines 33-35*).

In regard to **claim 29**, Wu discloses the groups are defined via a non-restrictive and/or a non-limiting set of similar items that are associated with one another based on one or more common or similar characteristics (*Pg 101 figure 10, Pg 102 figure 11, and pg 103 figure 12: Three example reports demonstrated by WU, that show user traversal*

paths separated into groups that represent the traversal paths of the given users in a group. The common characteristic is the same traversal path through a web site).

In regard to **claim 33**, Papierniak further teaches the one or more rows comprising one or more units that store information associated with web pages visited by the user (*Fig 9*). It would have been obvious to one of ordinary skill in the art, having the teachings of Wu and Papierniak before him at the time the invention was made, to modify the visualizing web site activity traffic taught by Wu to include the user rows of Papierniak. It would have been advantageous for one to utilize such a combination as a representation of data in a format meaningful to business management would have been obtained, as suggested by Papierniak (*Column 11 lines 33-35*).

In regard to **claim 36**, Wu discloses respective units being associated with intensity levels that indicate a frequency with which a user visits a type of web page (*Fig 7: pages most frequently visited by users*).

In regard to **claim 41**, Wu discloses the windows are sorted by a number of users within the group associated with the windows (*Pg 101 figure 10, Pg 102 figure 11, and pg 103 figure 12: Three example reports demonstrated by WU, that show user traversal paths separated into groups that represent the traversal paths of the given users in a group. The reports list most frequent paths indicating the number of users and also starting with the largest group and moving down to the smallest*).

In regard to **claim 42**, While Wu discloses using data mining techniques for grouping users; Wu fails to explicitly disclose utilizing an expectation-maximization algorithm.

However, as the Applicant admits in the specification on page 8, lines 14-20 that expectation-maximization algorithm is well known in the art. Therefore it would have been to one of ordinary skill in the art at the time the invention was made to use expectation-maximization algorithm with Wu's invention in order to create clusters using expectation-maximization algorithm.

In regard to **claim 43**, Wu discloses the respective windows change size in order to display more rows within a visible region of the windows (*Pg 101 figure 10, Pg 102 figure 11, and pg 103 figure 12: Three example reports demonstrated by WU, that show user traversal paths separated into groups that represent the traversal paths of the given users in a group. As we can see in the windows of the reports, the windows sizes are changed based on the amount of user traversal paths shown*).

In regard to **claim 44**, Wu fails to explicitly disclose using scroll bars to navigate through the windows. However, to those skilled in the art at the time of invention, scroll bars were well known. Therefore it would have been obvious to include scroll bars with Wu's invention. The motivation would be to provide the ability for the user to review information that is not currently in view within a window.

In regard to **claim 55**, Wu discloses a data packet transmitted between two or more computer components that facilitates visualizing web site activity, comprising:

a plurality of clusters that respectively include users with similar browsing behavior and web pages visited by the users, wherein the information within the plurality of clusters is displayed in windows, based on respective clusters, of a display and the web page information is partitioned into units associated with individual user (*Pg 101 figure 10, Pg 102 figure 11, and pg 103 figure 12: Three example reports demonstrated by WU, that show user traversal paths separated into groups that represent the traversal paths of the given users in a group*).

While Wu teaches a system that visualizes web site activity traffic, they fail to show the browsing information within the window being partitioned by user into one or more rows such that each row corresponds to an individual user as recited in the claims. Papierniak teaches visualizing web site activity traffic similar to that of Wu. In addition, Papierniak further teaches the browsing information within the window being partitioned by user into one or more rows such that each row corresponds to an individual user (*Figure 9 and Column 11 lines 22-40*). It would have been obvious to one of ordinary skill in the art, having the teachings of Wu and Papierniak before him at the time the invention was made, to modify the visualizing web site activity traffic taught by Wu to include the user rows of Papierniak. It would have been advantageous for one to utilize such a combination as a representation of data in a format meaningful to

business management would have been obtained, as suggested by Papierniak (*Column 11 lines 33-35*).

In regard to **claim 56**, method claim 56 corresponds generally to system claim 28 and recites similar features in method form, and therefore is rejected under the same rationale.

In regard to **claim 57**, Wu discloses a system that facilitates visualizing web site activity, comprising:

means for clustering web site activity information according to web site user behavior (*Pg 91 paragraph 6 lines 3-4: As previously discusses in rejection of independent claim 28, Wu discusses the use of data mining techniques. Wu further discusses the use data mining techniques to cluster users*);

means for displaying the clustered web site activity information in respective windows (*Pg 101 figure 10, Pg 102 figure 11, and pg 103 figure 12: Three example reports demonstrated by WU, that show user traversal paths separated into groups, each with their own respective box, that represent the traversal paths of the given users in a group*);

and means for presenting the web site activity information within respective windows based on similar user browsing behavior (*Pg 101 figure 10, Pg 102 figure 11, and pg 103 figure 12: Three example reports demonstrated by WU, that show user*

traversal paths separated into groups, each with their own respective box, that represent the traversal paths of the given users in a group).

While Wu teaches a system that visualizes web site activity traffic, they fail to show the browsing information within the window being delineated by user into one or more rows such that each row corresponds to an individual user as recited in the claims. Papierniak teaches visualizing web site activity traffic similar to that of Wu. In addition, Papierniak further teaches the browsing information within the window being delineated by user into one or more rows such that each row corresponds to an individual user (*Figure 9 and Column 11 lines 22-40*). It would have been obvious to one of ordinary skill in the art, having the teachings of Wu and Papierniak before him at the time the invention was made, to modify the visualizing web site activity traffic taught by Wu to include the user rows of Papierniak. It would have been advantageous for one to utilize such a combination as a representation of data in a format meaningful to business management would have been obtained, as suggested by Papierniak (*Column 11 lines 33-35*).

9. Claims 45, 46, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (IBM Systems Journal, Vol. 37, No 1: SpeedTracer: A Web usage mining and analysis tool) in view of Kreulen et al. (US 6424971 B1).

In regard to **claim 45**, Wu discloses a method that displays web traffic, comprising:

receiving web site user clusters, respective clusters include information related to one or more web pages accessed by one or more users who display similar web browsing characteristics (*Pg 91 paragraph 6 lines 3-4: As previously discusses in rejection of independent claim 28, Wu discusses the use of data mining techniques. Wu further discusses the use data mining techniques to cluster users*);

creating individual graphical user interfaces for each cluster (*Pg 101 figure 10, Pg 102 figure 11, and pg 103 figure 12: Three example reports demonstrated by WU, that show user traversal paths separated into groups, each with their own respective box, that represent the traversal paths of the given users in a group*);

and visualizing the cluster information within one or more rows, based on the user, of an associated graphical user interfaces (*Pg 101 figure 10, Pg 102 figure 11, and pg 103 figure 12: Three example reports demonstrated by WU, that show user traversal paths separated into groups that represent the traversal paths of the given users in a group*).

Wu fails to explicitly disclose using zero-order and first-order Markov models. However, as the Applicant admits in the specification on page 8, lines 14-20 that Markov models including first-order and zero-order are well known in the art. Therefore it would have been to one of ordinary skill in the art at the time the invention was made to use Markov first-order and zero-order models with Wu's invention in order to create clusters using zero-order and first-order Markov models.

Further, while Wu teaches a method to display web traffic, they fail to show the sorting the one or more graphical user interfaces based on a predetermined typicality measure as recited in the claims.

However, Kreulen teaches sorting clusters based on typicality (*Column 1 lines 49-50*). It would have been obvious to one of ordinary skill in the art, having the teachings of Wu and Kreulen before him at the time the invention was made, to modify the clusters taught by Wu to include the sorting of Kreulen. It would have been advantageous for one to utilize such a combination as a way to classify and analyze data would have been obtained, as suggested by Kreulen (*Summary*).

In regard to **claim 46**, Wu discloses the clusters are defined via a non-restrictive and/or a non-limiting group of similar items (*Pg 101 figure 10, Pg 102 figure 11, and pg 103 figure 12: Three example reports demonstrated by WU, that show user traversal paths separated into groups that represent the traversal paths of the given users in a group. The similar items are the same traversal paths through a web site*).

In regard to **claim 48**, Wu discloses further comprising delineating the one or more rows into one or more units that respectively store the web page information (*Pg 101 figure 10, Pg 102 figure 11, and pg 103 figure 12: Three example reports demonstrated by WU, that show user traversal paths separated into groups that represent the traversal paths of the given users in a group. Web page URL's are listed one by one in rows*).

10. Claims 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (IBM Systems Journal, Vol. 37, No 1: SpeedTracer: A Web usage mining and analysis tool) in view of Papierniak et al. (US 6714931 B1) and Kreulen et al. (US 6424971 B1).

In regard to **claim 31**, while Wu teaches a method to display web traffic, they fail to show the sorting the one or more graphical user interfaces based on a predetermined typicality measure as recited in the claims.

However, Kreulen teaches sorting clusters based on typicality (*Column 1 lines 49-50*). It would have been obvious to one of ordinary skill in the art, having the teachings of Wu and Kreulen before him at the time the invention was made, to modify the clusters taught by Wu to include the sorting of Kreulen. It would have been advantageous for one to utilize such a combination as a way to classify and analyze data would have been obtained, as suggested by Kreulen (*Summary*).

11. Claims 34, 35, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (IBM Systems Journal, Vol. 37, No 1: SpeedTracer: A Web usage mining and analysis tool) in view of Papierniak et al. (US 6714931 B1) and Mackinlay (US 6499034).

In regard to **claims 34, 35, and 40**, while Wu teaches visualizing web site activity traffic, they fail to disclose color coding according to type of web page where the type is one of local news, global news, financial news, and entertainment.

While Papierniak teaches visualizing web site activity similar to Wu, they fail to disclose color coding according to type of web page where the type is one of local news, global news, financial news, and entertainment.

However, Mackinlay teaches using colors to label and identify a type of web page represented, where the type includes local news (*Column 3 lines 20-34*). It would have been obvious to one of ordinary skill in the art, having the teachings of Wu, Papierniak, and Mackinlay before him at the time the invention was made, to modify the units taught by Papierniak to include the color coding of Mackinlay. It would have been advantageous for one to utilize such a combination in order to visualize and distinguish different types of web pages, as suggested by Mackinlay.

12. Claims 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (IBM Systems Journal, Vol. 37, No 1: SpeedTracer: A Web usage mining and analysis tool) in view of Kreulen et al. (US 6424971 B1) and Mackinlay (US 6499034).

In regard to **claim 49**, while Wu teaches visualizing web site activity traffic, they fail to disclose color coding according to type of web page where the type is one of local news, global news, financial news, and entertainment.

However, Mackinlay teaches using colors to label and identify a type of web page represented (*Column 3 lines 20-34*). It would have been obvious to one of ordinary skill in the art, having the teachings of Wu, Kreulen, and Mackinlay before him at the time the invention was made, to modify the visualization taught by Wu to include the color coding of Mackinlay. It would have been advantageous for one to utilize such a combination in order to visualize and distinguish different types of web pages, as suggested by Mackinlay.

Allowable Subject Matter

13. Claims 32 and 37-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

14. Applicant's arguments with respect to claims 28-29, 31-46, 48, 49, and 52-57 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas S. Ulrich whose telephone number is 571-270-1397. The examiner can normally be reached on M-TH 9:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on 571-272-4048. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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1/16/2008
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